

POSITIONS AND AREAS OF SUN SPOTS—Continued

Date	Eastern standard civil time	Heliographic			Area		Total area for each day
		Diff. long.	Longitude	Latitude	Spot	Group	
Mar. 26 (Naval Observatory).	11 47	°	°	°	216		
		-80.5	25.4	-4.0	31		
		-45.5	60.4	+9.5		6	
		-32.0	73.9	+8.5			
		-21.0	84.9	+10.5	93		346
Mar. 27 (Naval Observatory).	11 1	-68.5	24.6	-3.0		340	
		-32.5	60.6	+10.5	31		
		-8.0	85.1	+10.5	62		433
Mar. 28 (Naval Observatory).	11 15	-55.0	24.8	-3.5		340	
		-19.5	60.3	+10.0	34		
		-5.0	74.8	+9.0		6	
		+5.0	84.8	+10.0		34	414
Mar. 29 (Naval Observatory).	11 4	-41.0	25.7	-4.0	293		
		-7.0	59.7	-17.5		49	
		-6.0	60.7	+9.0		37	
		+18.5	85.2	+10.0	25		404
Mar. 30 (Naval Observatory).	11 19	-30.0	23.4	-5.0		386	
		+7.0	60.4	-18.0		62	
		+9.0	62.4	+9.5		34	
		+31.5	84.9	+10.0	12		404
Mar. 31 (Naval Observatory).	11 7	-17.0	23.3	-5.0		509	
		+21.0	61.3	-16.5		43	
		+23.5	63.8	+9.5		56	608
Mean daily area for March							516

PROVISIONAL SUN-SPOT RELATIVE NUMBERS FOR MARCH, 1930¹

[Data furnished through the courtesy of Prof. W. Brunner, University of Zurich, Switzerland]

March, 1930	Relative numbers	March, 1930	Relative numbers	March, 1930	Relative numbers
1	a 23	11		17	21
2		24	12	30	22
3		28	13	26	23
4		54	14	24	23
5		55	15	25	17
		Ec 28			
6		50	16	26	d
7	b 50	17	b 49	27	36
8	b 49	18	a 44	28	a 31
9		53	19	29	30
10		28	20	32	Mc 52
					31
					52

Mean, 28 days = 35.0.

¹ Dependent alone on observations at Zurich and its station at Arosa.

a = Passage of an average-sized group through the central meridian.

b = Passage of a large group through the central meridian.

c = New formation of a large or average-sized center of activity: E, on the eastern part of the sun's disk; W, on the western part; M, in the central zone.

d = Entrance of a large or average-sized center of activity on the east limb.

AEROLOGICAL OBSERVATIONS

By RICHMOND T. ZOCH

Except for the levels close to the surface at Ellendale, free-air temperatures were below normal at all levels at all of the aerological stations.

Relative humidity departures were positive in the upper levels at Due West and Groesbeck and in the lower levels at Royal Center. Elsewhere they were negative.

Free-air vapor pressures were mostly below normal.

The resultant winds were variable at the 500 and 1,000 meter levels. At the 1,500 to 3,000 meter levels they were northwesterly throughout the northern and eastern part of the country. Above the 4,000-meter level they were northwesterly over the entire country.

TABLE 1.—Free-air temperatures, relative humidities, and vapor pressures during March, 1930

TEMPERATURE (° C.)

Altitude (meters) m. s. l.	Broken Arrow, Okla. (233 meters)		Due West, S. C. (217 meters)		Ellendale, N. Dak. (444 meters)		Groesbeck, Tex. (141 meters)		Royal Center, Ind. (225 meters)	
	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal
Surface	7.7	-2.3	8.5	-3.2	-1.4	+0.6	12.0	-1.3	1.4	-2.9
500	6.6	-1.7	7.0	-2.8	-1.9	+0.3	10.5	-1.1	0.1	-2.0
1,000	4.8	-1.5	4.1	-3.1	-4.0	-0.5	8.8	-1.3	-2.2	-2.4
1,500	3.1	-1.7	1.6	-3.2	-5.9	-1.3	7.0	-1.8	-4.2	-3.0
2,000	0.5	-2.5	-1.1	-3.6	-8.0	-1.6	5.3	-2.0	-5.9	-3.0
2,500	-2.3	-3.0	-3.5	-3.7	-10.6	-1.8	3.1	-2.0	-7.9	-2.7
3,000	-5.2	-3.4	-5.3	-3.4	-12.7	-1.1	0.7	-1.8	-10.3	-2.7
4,000	-10.0	-2.9	-9.1	-2.3	-18.5	-1.5	-4.5	-1.2	-15.2	-2.6
5,000	-16.8	-2.9	-14.4	-1.5	-25.3	-2.4		-22.3	-3.5	

RELATIVE HUMIDITY (%)

Surface	58	-6	63	-1	66	-7	71	0	74	+3
500	57	-5	60	-2	66	-6	66	-1	71	+1
1,000	54	-5	59	-2	60	-4	62	+2	68	+4
1,500	47	-5	58	-2	55	-3	55	+4	59	+2
2,000	44	-2	57	+1	50	-6	48	+5	51	-3
2,500	41	-1	54	+3	50	-6	47	+8	46	-6
3,000	40	0	50	+6	47	-10	49	+12	48	-4
4,000	35	-2	46	+5	48	-5	60	+12	39	-10
5,000	25	-2	54	+7	47	-6			39	-15

TABLE 2.—Free-air data determined at Naval air stations during March, 1930

Altitude (meters) m. s. l.	Temperature (°C.)			Relative humidity (%)		
	Pensacola, Fla.	San Diego, Calif.	Washington, D. C.	Pensacola, Fla.	San Diego, Calif.	Washington, D. C.
Surface	9.6	16.4	4.4	73	64	64
500	8.6	15.4	3.4	59	56	56
1,000	6.3	13.9	1.2	46	51	55
2,000	1.6	7.9	-4.1	41	42	58
3,000	-1.3	1.3	-7.9	32	34	46
4,000						
5,000						